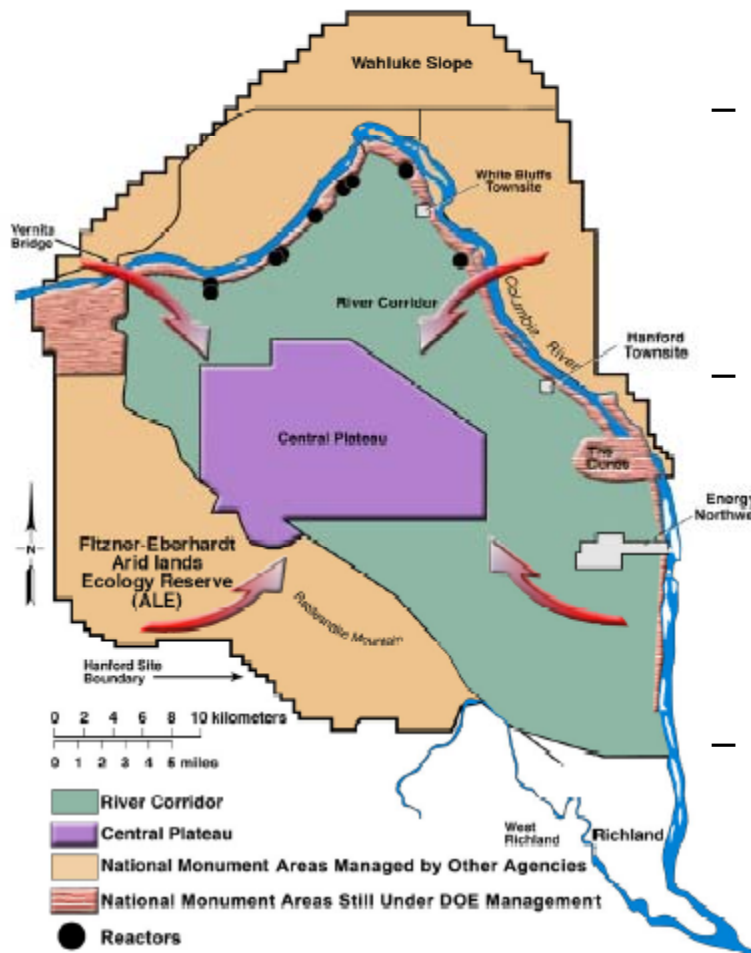


Deactivation and Decommissioning



Hanford Site ~ 586 square miles (1500 sq km)

Hanford Site includes 4 major areas:

- 2 National Monument Areas (~300 sq mi [775 sq km])
 - Managed for conservation, tribal and recreational use
 - To be transferred to other federal control
- River Corridor (~210 sq mi [550 sq km])
 - Reactors, fuel fabrication and laboratory facilities
 - Most cleanup decisions have been made & cleanup initiated
 - To be available for conservation, tribal, recreational, and industrial use after cleanup
- Central Plateau (~75 sq mi [200 sq km])
 - Fuel processing and waste management facilities.
 - Last remaining major area where cleanup decisions still need to be made
 - To be transferred to long-term stewardship after cleanup

Central Plateau Remediation

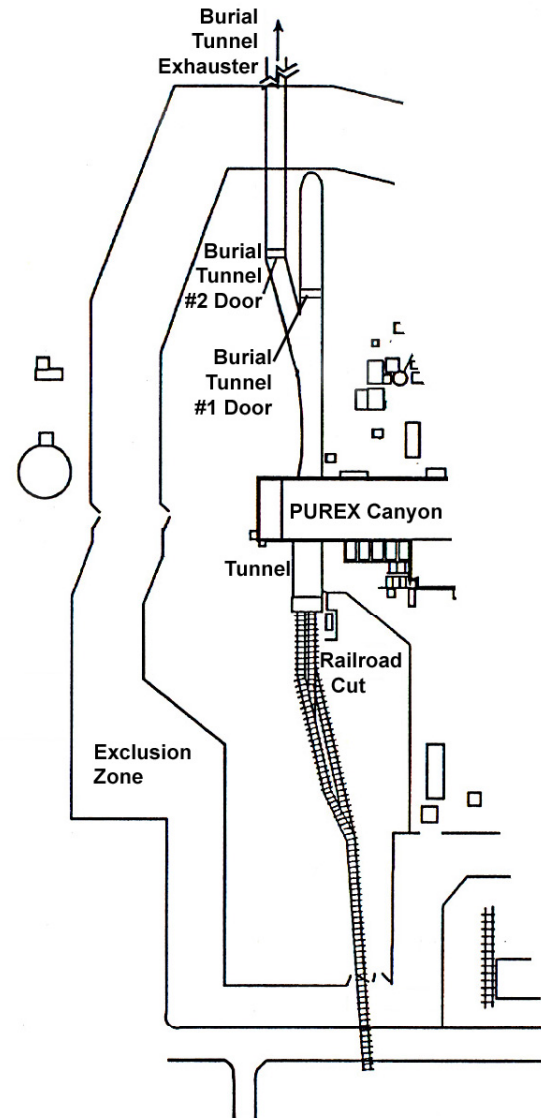
Scope

- Five major defense production facilities (canyons) used for fuel reprocessing
- 955 processing, handling, or storage facilities e.g., PFP, and general purpose structures
- Over 850 sites consisting of cribs, ponds, ditches, retention basins, burial grounds, pipelines, and unplanned releases
- 177 single- and double-shell tanks requiring void fill and protection after retrieval

PUREX Canyon



PUREX Tunnels



Central Plateau Remediation

End State Assumptions

- The Central Plateau will remain under Federal control indefinitely
- Institutional controls will remain in place for the foreseeable future
- Legacy transuranic contaminated materials and soils will be left in place

Canyon/Facility Challenges

- Canyon Disposition - Baseline for Canyons is to seal them in place (partial-demo) rather than removal. This will require modeling and in-situ stabilization, removal, and/or disposal of radionuclide and/or hazardous wastes.
- Stabilization of Tanks and Piping - Application of fixatives to tanks and piping for in-situ stabilization of applicable contaminants; includes potential Pu-bearing tank heels.
- Asbestos removal and disposition.

Canyon/Facility Challenges

- Field Screening Methods - Further development of methods (both standing structures/equipment and large containers) to determine waste characterization of hazardous constituents, including transuranic constituents.
- Detailed Analysis for Determining Waste Acceptance Criteria or Performance Assessment for Canyon Buildings - Modeling efforts/development necessary to determine contaminants that can be dispositioned in a canyon building and not adversely impact human health or the environment.
- Multi-purpose Cost Effective Robotic Vehicles – improved technology to address waste retrieval/removal, long-length size and volume reduction, characterization (sampling, NDA, chemical analysis, detection) of piping, tanks, stacks, structures, terrain, etc., decontamination, drum venting, and limited treatment (e.g., chemical, macro-encapsulation).

Canyon/Facility Challenges

- Demolition Technologies for Contaminated Heavy Sections-- Further evaluation and development of technologies for demolition of heavy sections(>3 ft.) of contaminated structure. Would include dust suppression technologies for standard demolition processes such as explosive cracking followed by shearing.
- Grout/Concrete Stability Studies--Investigate models for long term stability of existing structures (and grout added during D&D) to support waste disposition in existing canyons.
- Research and Development of the Permeable Adsorptive Liner (PAL) – This technology could be utilized for onsite disposal of contaminated D&D construction debris, facility waste, small discrete waste sites, and pipelines.